

- சுமார், எ-1-18,008-18-6-87.

17TH MARCH 1890, No. 876 W., PUBLIC WORKS.

GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following paper :—

From Lieut.-Colonel A. C. SMITH, R.E., Superintending Engineer, VI Circle, to the Chief Engineer, Public Works Department, dated Kodaikānal, 24th February 1890, No. 1009 T.N.

I have the honor to forward, herewith, a letter, No. 17, dated 18th instant, from the President, District Board, Tinnevely, to the address of the Chief Secretary, submitting, for sanction, a third revised estimate of Rs. 1,14,500 for constructing a bridge over Srivaikuntham anicut.

2. The original estimate of Rs. 93,000 was sanctioned in G.O., No. 846 W., dated 7th April 1885, and the second revised estimate of Rs. 1,10,000 in G.O., No. 2620 W., dated 6th October 1886. The first revised estimate appears to have been returned by Government in the Local Fund Department for further revision.

3. The cause of excess over the revised sanction is satisfactorily explained by the Local Fund Engineer in his letter to the President attached to the estimate.

These are briefly as follows :—

- (a) Erecting and fitting charges were incurred in proportion to the increased weight of iron work received from the Secretary of State.
- (b) The rate for coarsed rubble has been increased in consideration of the distance of cartage and of the difficulty of dressing and hoisting them in their places.
- (c) In addition to a slight increase in rate, a larger quantity of cut-stone was found necessary.
- (d) The contingencies and superintendence have been increased to cover the actual expense. These are less than 3 per cent. of the estimate.

ORDER—dated 17th March 1890, No. 876 W., Public Works.

The revised estimate, amounting to Rs. 1,14,500, for constructing a bridge over the Srivaikuntham anicut, is sanctioned in supersession of the estimate of Rs. 1,10,000 sanctioned in G.O., No. 2620 W., dated 6th October 1886.

2. This sanction has been registered as Local No. 41 W. of 1889-90.

(True Extract.)

Captain, R.E.,
Under-Secy. to Govt., P.W.D.

To the Superintending Engineer, VI Circle.
" Local and Municipal Department, with ten enclosures.
Exd. P. L. Pereira.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1890} Madras

PUBLIC WORKS.

Dated March, 17th.

Recd.

Encl.

G.O., 17th Mar. 1890, No. 876 W.

MARCH.

Bridge over the Srivaikuntham
Anicut

Revised estimate of Rs. 1,14,500 for
constructing a —, sanctioned.

No. 1
A1

2/876

Tinnevely Local Fund Engineers Office
Camp Palaniccottah Dated 3rd January 1890

From

Robert G. Lowry Esquire

Local Fund Engineer

Tinnevely Dist.

To

The President

District Board

Tinnevely

Sir,

With reference to your No. 14 dated 29 April 1889, I
have the honor to submit a third revised estimate for
the work of Constructing a Bridge across the Tambapuran
River at Sivakurdam anicut.

ii The amount of the 2nd revised estimate which is
enclosed for reference was Rs. 1,10,000, the amount of
the one now submitted is Rs. 1,14,500 or Rs. 2200 less
than the sum which in my letter No. 868 dated 17th of
April, I anticipated that it would cost to complete
the work.

iii As will be seen from the comparative —

statement accompanying the estimate a sum of Rs 1962—
an excess of estimate provision has been incurred on
account of "Erecting and fitting Iron work". This is
due to the Iron work of the Bridge, as supplied by the
Secretary of State for India weighing 313 tons as against
the 291½ tons of the sanctioned estimate. The cost of
erecting has been only Rs 34 a ton as against Rs 40
a ton provided in the sanctioned estimate, this rate
of Rs 34 a ton includes the cost of landing the
iron work at Tuticorin and of transporting it from
Tuticorin to the Bridge site— a distance by the nearest
route of 22 miles of which 10 miles was a cross country.
There were 66 main girders each weighing about 2½
tons and 277 cross girders each weighing about ½ ton,
besides hand-railing &c. The cost of transport was
nearly Rs 20 a ton, so that the actual cost of erection
was only about Rs 15 a ton: this is, I beg to point out
a particularly low rate— indeed I doubt if, all things
being taken into account such work has been done for
a lower rate in this country.

IV The sanctioned estimate provision for "Superintendence

3/
876

and Contingencies" has had to be increased by Rs ^{3/4} 16
1384—10—3 making the whole amount under this
head Rs 3034—10—3 or about 3 per cent of the cost of
work. I do not think this percentage for Supervision
and Contingencies can be considered extravagant,
particularly when it is known that the actual cost of
Supervision alone up to the end of December has been
only about Rs 1872, the total expenditure on Contingencies
being about Rs 1132. This latter sum was utilized in
forming temporary roads, clearing away scaffolding and
tools in anticipation of floods in River &c. The actual cost
of supervision has thus been only about 2 per cent and
that of contingencies about 1 per cent of the cost of work
done.

✓ The item of work against which the third largest
excess over estimate provision has been incurred is "Cut
stone". This is partly due to a mistake having been made
in the former estimate, the actual contents of the
stones as dressed having been shown and not the
measurements of the stones when squared— before
levelling &c. The cost per sq. ft. of the cut stone work

as carried out exceeds the sanctioned estimate rate by 4 annas — the sanctioned estimate rate being Rs 1 per 100 ft. and the actual cost rate being Rs 1 1/4 per 100 ft. The stones had to be carted from Shermadivi — a distance of 30 miles — and had to be hoisted to a height of from 24 to 28 ft. above the river bed. Most of the blocks of cut stone are very large — each of the bed stones on which the girders rest weigh half a ton.

VI. The coursed rubble in Surbs mortar cost Rs 61 per 100 ft. as against the estimated Rs 45 per 100 ft.

The increase over estimate rate was unavoidable. Except for three months — when I was absent on privilege leave — the whole work was carried over Departmentally under my personal and very careful supervision and was done as economically as possible. Taking into consideration that the stones of which the coursed rubble masonry is built had to be brought from quarries situated at an average distance of 10 miles from the bridge site, that the average depth of the courses is nearly one foot, that the courses were dressed one foot back from face on all beds and joints that

— each

each course had to be fitted in the river bed and examined before the stones were hoisted into their places in the piers which stand 24 feet high above the river bed — no dressing having been allowed on the piers — and that the rate for building includes cost of pointing, I submit that the rate at which the work has been carried out is low, and I beg that a comparison may be instituted between it and the cost of the Madras Bridge Piers which are, I believe, of coursed rubble masonry also.

VII. On the other hand, there has been a saving of Rs 1208 on account of Pointing — this work having been included in the cost of the masonry as built. There has also been a saving of Rs 917. 1/4 — on account of wood work although the planking as put down is 4 inches thick instead of 3 3/4 inches as provided for in the sanctioned estimate. A width of only 17 feet could be given to the planking. The provision of Rs 326 for concrete on piers was not required the filling in over piers being formed of first class

Brick in mortar.

VIII The other differences between the estimate as sanctioned and as now submitted are unimportant.

IX The Bridge is, to all intents and purposes, completed and may be opened to the public at any time.

I have &c.
(signed) R. L. Lowry
Local Fund Engineer

(true copy) 
For President

PROCEEDINGS OF THE DISTRICT BOARD

TINNEVELLY.

Dated 27th January

1880

5/876

Resolution No. 3

PRESENT.

Officials

1. Mr P. P. C. Murgeseem Pillai Avergah Rao Bahadur Vice President
2. — " — R. Subramania Aiyar Avergah — " — Dist Registrar
3. — " — Sivarama Aiyar Avergah Rao Sahib Saheddar Bentasi
4. — " — C. Mukunda Rao Avergah — " — " — Manguni
5. — " — Ambalavana Pillai Avergah — " — " — Sakun
6. — " — B. Narasimhalu Aiyar Avergah — " — " — Otapiaran
7. — " — G. A. Sundham Aiyar Avergah — " — Sub Asst. Inspector of Schools Tinnevely
8. Surgeon Major H. Hyde District Surgeon

Non Officials

9. Mr P. P. C. Ramakrishna Aiyar Avergah Rao Sahib
10. — " — Sankarasadasiva Somaiyagar Avergah —
11. — " — V. Devanayagam Pillai Avergah — " —
12. — " — Kanugo Muthia Pillai Avergah — " —
13. — " — Namasivaya Mudaliar Avergah — " —
14. — " — Dharma Raju Garu Avergah — " —
15. — " — Syed Jemeet Sahib Avergah Khan Sahib

16. Mr R. Khan Abdul Kader Maraikar Honayal Khan Sahib

17. Reverend A. Margoschis

Read letter from the President District Board Tinnevely
no 44 of the 29th April 1889 calling for a 3rd revised
estimate for constructing an iron girder bridge across the
Tambaram river at Tiruaituntam -

Read also letter from the Local Fund Engineer Tinnevely
no. 1 of the 3rd January 1890 submitting the revised estimate
for Rs. 114,500 called for above -

The revised Estimate is approved and will be
submitted to Government for sanction. The estimate ought
to have been sent by the Local Fund Engineer before the
work was completed -

(True Extract)

Champer
Vice President

Comp
R.

No 17

District Board's Office Tinnevely
6/8/90 Dated 18th February 1890

From

H. Freeman Esquire,

President District Board
Tinnevely

To

The Chief Secretary to Government

Fort Saint George

Thro.

The Superintending Engineer
6th Circle

Sir,

I have the honor to submit for the sanction of Government
a third revised estimate amounting to Rs. 114,500 for
constructing a bridge over Tiruaituntam Anicut
which exceeds the 2nd revised estimate (herewith
submitted for reference) by Rs. 4,500.

2. The chief items under which there is an increase
over the provision made in the sanctioned estimate

are (1) "Erecting and fitting iron work" (2) "Superintendence
and Contingencies" (3) "Cutstone work" showing an increase
of Rs. 1,375 in all. These and certain other variations
from the sanctioned estimate are explained in the
Comparative statement accompanying the estimate,
and in the Local Fund Engineer's letter no. $\frac{1}{A.1}$ of the
3rd January 1890 copy of which is herewith submitted.

3. The work has almost been completed under the
direct supervision of the Local Fund Engineer. A
copy of the District Board's Resolution No. 3 of the
27th January 1890 approving of the revised estimate
is also submitted.

I have the honor to be

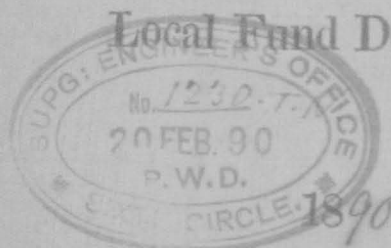
Sir,

Yr. Most Obedient servant

W. C. C. C.

P.P.

For President



Local Fund Department.

TINNEVELLY DISTRICT BOARD'S
OFFICE.

From

The President District Board
Tinnevelly.

To

The Chief Secretary to
Government,
Fort St. George.

Thro. The Superintending Engineer
6th Circle

Dated 18th February 1890
Received

No. 17.

ENCLOSURES - 10.

Subject.

* (9 sent per
Packed Post)

Bridge over the Sivachanthum

Ancient - Submitting a third
revised estimate for constructing
a — for sanction

Public Works Department.

Current No. 2032

Letter No. 1009

Dated 24th February 1890

From the Supg. Eng. 6th Circle

Sanction 11/11/90
6.3.90

NOTE OF REMARKS.

The third revised
estimate under review
amounting to Rs. 14,500
for constructing a bridge
over the Sivachanthum
Ancient is submitted
for sanction in defer-
ence of the estimate
for Rs. 1,10,000 sanction
in G.O. No. 2620 d/6th
October 1886.

The sum of Rs. 14,500
is shown to be due to
the following causes -

(a) Increased charges
for erecting & fitting
in proportion to the
increased weight of
iron work received
from the Secretary
of State.

(b) Increased rate for
carried rubble due
to distance of Carha
and difficulty of getting
most hoisting the stone
in position -
a large quantity of

than provided for in
the Est: -

(d) Increase in Contingencies
for Contingencies
& Supervision which
has been taken together
is less than 3%, and
the amount of
the Estimate.

The Supy. Engineer
considers that the
excess has been satisfactorily
explained -

The Estimate has
been counter-signed
by the President
of the Dist. Board -

C. J.
5.3.90

The largest excess in
Bridges in Madras at 3000
odd, is not explained,
but as the total nett
excess is only at 4500
or 4 percent on the
estimate of at 1,10,000

it does not seem necessary
to do more than approve
the revised estimate

+ has sanctioned by the
S.E. & President of Board.

W. J.
5.3.90

9
876

OFFICE OF THE SUPERINTENDING ENGINEER,
6TH CIRCLE.

Kodaikanal 24 February 1889
D-26/-

No. 1009-TN.
From Lt. Col. A. Smith R.E.
The Superintending Engineer,
6th Circle.

To
The Chief Engineer
P.W.D.

Sir,

ENCLOSURES. 11.

President's Letter
No. 17 of 1888
together with 10
enclosures -

I have the honor to forward
herewith a letter No. 17 dated 15th inst.
sent from the President District
Board directly to the address
of the Chief Secretary, submitting
for sanction a third revised estimate
of Rs. 114,500 for constructing a bridge
over Sivakumaran stream.

2. The original estimate of Rs. 98,000
was sanctioned in G.O. No. 8466 dated
7th April 1885, the second revised
estimate of Rs. 110,000 in G.O. No. 2620A
dated 6th October 1886, the first re-
vised estimate appears to have been
returned by Government in the L.S.
Department for further revision -

3. The cause of excess over the revised
sanction is satisfactorily explained

by the L. J. Engineer in his letter, to
the President, attached to the
estimate.

These are briefly as follows:-

- (a) Erecting & fitting charges were
increased in proportion to the in-
creased weight of iron work received
from the Secretary of State.
- (b) The rate for coarsed rubble has been
increased in consideration of the
distance of cartage & of the
difficulty of dressing & hoisting
them in their places.
- (c) In addition to a slight in-
crease in rate, a larger quantity
of cut stone was found necessary.
- (d) The Contingencies & Superintendence
have been increased to cover
the actual expense. There are
less than 3 per % of the estimate.

I have the honor to be

Yours most obedient &c.

Albion L. Colver

Superintendent

P.W. C No 2032.

P. W. D. 6TH CIRCLE.

From

The Supt. Engineer
11 circle

From

The Superintending Engineer,
6th Circle.

To

The

The Chief Engineer
P.W.D.

No.

Dated

Received

188

Enclosure.

No. 30C46-1-90

" 4147C-17-9-87

" 4461C-4-10-87

" 747C-21-2-88

" 176W-16-1-88

" 3309W-3-12-87

" 4286C-24-11-87

" 1706W-24-6-87

" 79B-7-5-87

" 211B-9-6-87

" 2620W-6-10-86

" 846W-7-4-85

Forwards letter from President D.
B. Submitting for sanction
a third revised estimate
of Rs 114,500 for constructing
a bridge over Sairaikam-
thoum Amicut -

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following

From the S. E. VI Circle. - No 1009 J. S. 24 Feb 1890.

The revised
estimate amounting
to Rs 114,500 for
constructing a bridge
over the Sairaikam
Amicut is sanctioned
in supersession of the
estimate of Rs 110,000
sanctioned in S. O. No
2620W, of 6th Oct
1886.

2. This sanction
has been registered
as Local 41 W of
1889-90.

The S. E. VI Circle
a Local & Municipal
Department with
10 enclosures.

The Hon'ble the Chief
Secy for favor aff
counter-initials

R 13/3

10.3.90

11.3.90

~~Here~~

✓ Curt
12-3-90

✓ May

62-See 11-3-90

4-14-3-90 17-3-90

2032.

Govt. of Madras.

PUBLIC WORKS.

Dated

18/3

Recd.

Encl.

G.O. 17 March 1895 N. 876 W.

Bridge over the
Crown Point
Ainut.

Revised estimate
T Rs 1,14,500 for
work a —
Sanctioned.

100

3

12/10/95